



US 20210098535A1

(19) **United States**

(12) **Patent Application Publication**
Cai et al.

(10) **Pub. No.: US 2021/0098535 A1**

(43) **Pub. Date: Apr. 1, 2021**

(54) **DISPLAY PANEL OPTICAL CROSS-TALK
COMPENSATION SYSTEMS AND METHODS**

Publication Classification

(71) Applicant: **Apple Inc.**, Cupertino, CA (US)

(51) **Int. Cl.**

H01L 27/32 (2006.01)

H01L 51/52 (2006.01)

(72) Inventors: **Shengchang Cai**, Sunnyvale, CA (US);
Enkhamgalan Dorjgotov, Mountain
View, CA (US); **Chaohao Wang**,
Sunnyvale, CA (US); **Sheng Zhang**,
San Jose, CA (US); **Giovanni Carbone**,
Palo Alto, CA (US); **Igor Stamenov**,
Manteca, CA (US)

(52) **U.S. Cl.**

CPC **H01L 27/322** (2013.01); **H01L 51/5275**
(2013.01)

(21) Appl. No.: **17/003,606**

(22) Filed: **Aug. 26, 2020**

Related U.S. Application Data

(60) Provisional application No. 62/906,563, filed on Sep.
26, 2019, provisional application No. 62/906,625,
filed on Sep. 26, 2019.

(57)

ABSTRACT

Techniques for implementing and/or operating an electronic device that includes or utilizes a display panel. The display panel includes an organic light-emitting diode layer, an encapsulation layer disposed over the organic light-emitting diode layer, and a color filter layer disposed over the encapsulation layer. The color filter layer overhangs the organic light-emitting diode layer and comprises a first color filter cell of a first color component sub-pixel that at least partially overlaps an organic light-emitting diode of a second color component sub-pixel that is a different color compared to the first color component sub-pixel.

